

REMARKS

Claims 1-2, 4-15, 17-27, 29-32, and 35-38 were previously pending in the application. Claims 2, 15, 27, and 32 are canceled; claims 1, 14, 26, and 31 are amended; and new claims 39-42 are added herein. Assuming the entry of this amendment, claims 1, 4-14, 17-26, 29-31, and 35-42 are now pending in the application. The Applicant hereby requests further examination and reconsideration of the application in view of the foregoing amendments and these remarks.

In paragraph 2, the Examiner rejected claims 1-2, 4, 10-11, 14-15, 17, 23, 26-27, 29, 31-32, and 35-38 under 35 U.S.C. § 102(b) as being anticipated by Ngo. In paragraph 3, the Examiner rejected claims 5, 18, and 30 under 35 U.S.C. § 103(a) as being unpatentable over Ngo in view of Chaddha. In paragraph 3, the Examiner also rejected claims 6, 12-13, 19, and 24-25 under 35 U.S.C. § 103(a) as being unpatentable over Ngo in view of Eshet. In paragraph 3, the Examiner also rejected claims 7, 9, 20, and 22 under 35 U.S.C. § 103(a) as being unpatentable over Ngo in view of Eshet and Balachandran. In paragraph 3, the Examiner also rejected claims 8 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Ngo in view of Eshet, Balachandran, and Li.

For the following reasons, the Applicant submits that all pending claims are allowable over the cited references.

Support for the amendment of claims 1, 14, 26, and 31 can be found, e.g., in previously presented claims 2, 15, 27, and 32, respectively.

Amended claim 1 is directed to a method of processing data streams in a contention-based WLAN system and specifies, inter alia, that the system conforms to an **IEEE 802.11e** standard and supports a **quality of service (QoS) facility**.

In the rejection of claim 2, the Examiner cites and relies on Ngo's Figs. 1-2; col. 5, lines 4-12; and col. 6, lines 47-67. In the relevant portion, the relied-upon text reads as follows:

Transport priority settings 250 maps each encoded data stream output by layered source encoder 210 according to its priority level and to a comparable reliability index and physical mode supported by **IEEE 802.11a** networks. A **physical mode** in this scenario **equates to a different modulation technique**.

An exemplary transport priority settings 250 mapping of different priority source code layers to the physical transport modes is shown below in Table 2. Thus, physical mode transmitter 230 transmits each layer from multiplexer 220 according to Table 2. [Emphasis added.]

Ngo's Table 2 then shows the physical transport modes (i.e., constellation types and coding rates) assigned to various layers of the transmitted data stream, with the rightmost column of the table showing the reliability indices corresponding to those physical transport modes. Presumably, the Examiner interprets these reliability indices as evidence of the use of a QoS facility in the transmission system of Ngo.

First of all, the Applicant submits that, within the realm of the IEEE 802.11 family of standards, the terms "QoS" and "QoS facility" are the terms of art that have a very specific well-defined meaning articulated in the **IEEE 802.11e** supplement standard. In particular, section 3.71 of the (incorporated-by-reference, see Applicant's page 1, lines 18-19) draft standard 802.11e, version D4.0 of November , 2004, defines the QoS facility as follows:

3.71 QoS facility: The set of enhanced functions, formats, frame exchange sequences and managed objects to support the selective handling of 4 access categories, or 8 traffic streams per wireless link. The handling of MSDUs belonging to different Priorities may vary based on the Access Categories (AC) associated with

the priority, as well as the values of other parameters that may be provided by an external management entity in a traffic specification for the particular traffic stream, and link.

Thus, the 802.11 “QoS facility” relies on the 802.11e Access Categories (which are: Best Effort, Video Probe, Video, and Voice; see, e.g., section 6.1.1.3 of IEEE 802.11e) for priority differentiation. The draft standard also defines two mechanisms for the implementation of the QoS facility. The first mechanism is designated as the Enhanced Distributed Coordination Function (EDCF). The second mechanism allows for scheduling of transmission opportunities with the hybrid coordinator located at the access point (AP) of the WLAN.

In view of this information, it is clear that Examiner’s reliance on Ngo’s Table 2 as providing an example of the 802.11 “QoS facility” recited in claim 1 is unfounded. In particular, it is noted that neither Ngo’s Table 2 nor the cited text mentions any of: the IEEE 802.11 Access Categories, Enhanced Distributed Coordination Function (EDCF), and hybrid coordinator at the access point (AP). Since at least one of these elements is required for either a definition of the requisite “QoS facility” or its implementation, it is submitted that the cited portion of Ngo does not teach such “QoS facility.”

Second, the Applicant notes that Ngo only refers to IEEE 802.11a (see, e.g., the above-quoted portion of Ngo), and never to IEEE 802.11e. The significance of this observation is that the IEEE Standards Committee adopted the 802.11e supplement exactly because the legacy IEEE 802.11 standard and the 802.11a supplement did not support a “QoS facility.” (See, for example, section 1.2 of IEEE 802.11e, which explicitly states that the purpose of its enactment is to “Define[] the MAC procedures to support LAN applications with Quality of Service (QoS) requirements.”) It is submitted that Ngo’s exclusive reliance on IEEE 802.11a (and not on IEEE 802.11e) further supports the conclusion that Ngo does not teach or suggest the “QoS facility” recited in claim 1.

Third, the Applicant notes that the filing date of Ngo is March 2, 2000. Because the IEEE Standards Committee released the 802.11e supplement in November, 2002, it is clear that Ngo had predicated it by more than two years. It thus follows that Ngo cannot possibly teach the requisite “QoS facility.”

Finally, the Applicant notes that Chaddha, Eshet, Balachandran, and Li do not rectify the above-stated deficiencies of Ngo because those references do not even mention “an IEEE 802.11 standard,” let alone “a QoS facility,” both of which are explicitly recited in claim 1.

For all these reasons, the Applicant submits that claim 1 is allowable over the cited references. For similar reasons, the Applicant submits that each of claims 14, 26, and 31 is also allowable over the cited references. Since the rest of the pending claims depend variously from claims 1, 14, 26, and 31, it is further submitted that those claims are also allowable over the cited references. The Applicant submits therefore that the rejections of claims under §§ 102 and 103 have been overcome.

Support for new claim 39 can be found, e.g., on page 6, lines 4-11. Each of new claims 40-42 is similarly supported.

Claim 39 specifies that the step of assigning comprises: (i) assigning to the base sub-stream a QoS parameter set corresponding to a voice access category of the IEEE 802.11e standard; (ii) assigning to a first enhancement sub-stream a QoS parameter set corresponding to a video access category of the IEEE 802.11e standard; (iii) if there is a second enhancement sub-stream, then assigning to the second enhancement sub-stream a QoS parameter set corresponding to a video probe access category of the IEEE 802.11e standard; and (iv) if there is a third enhancement sub-stream, then assigning to the third enhancement sub-stream a QoS parameter set corresponding

to a best effort access category of the IEEE 802.11e standard. The Applicant submits that the cited references do not teach or suggest this combination of features. These facts provide additional reasons for the allowability of claim 39 over the cited references. The Applicant further submits that these additional reasons similarly apply to the allowability of each of claims 40-42.

In view of the above amendments and remarks, the Applicant believes that the now-pending claims are in condition for allowance. Therefore, the Applicant believes that the entire application is now in condition for allowance, and early and favorable action is respectfully solicited.

Fees

During the pendency of this application, the Commissioner for Patents is hereby authorized to charge payment of any filing fees for presentation of extra claims under 37 CFR 1.16 and any patent application processing fees under 37 CFR 1.17 or credit any overpayment to **Mendelsohn & Associates, P.C. Deposit Account No. 50-0782**.

The Commissioner for Patents is hereby authorized to treat any concurrent or future reply, requiring a petition for extension of time under 37 CFR § 1.136 for its timely submission, as incorporating a petition for extension of time for the appropriate length of time if not submitted with the reply.

Respectfully submitted,

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Customer No. 46900

Mendelsohn & Associates, P.C.

1500 John F. Kennedy Blvd., Suite 405

Philadelphia, Pennsylvania 19102

/Yuri Gruzdkov/

Yuri Gruzdkov

Registration No. 50,762

Attorney for Applicant

(215) 557-8544 (phone)

(215) 557-8477 (fax)